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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Nadejda G. Gurskaya, et al.

Serial No.: 10/501,629

Confirmation No.: 9951

Filed: July 15, 2004

**For: NOVEL FLUORESCENT
PROTEIN FROM AEQUOREA
COERULSCENS AND
METHODS FOR USING THE
SAME**

மாண்புமிகு பேரவைத் தலைவர்:

Group Art Unit: 1656

Examiner: Maryam Monshipouri

MAIL STOP AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATE OF MAILING
37 CFR 1.8

I hereby certify that this correspondence is being deposited with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on

3/28/2008

Keith M. Tackett

Typed Name

32.008

Reg. No. if applicable

Kirkwh

Signature

(713) 623-4844

Telephone Number

DECLARATION UNDER 37 C.F.R. §1.132

I, Sergey Lukyanov, hereby declare and state that:

1. I am a scientist at Shemyakin and Ovchinnikov Institute of Bioorganic Chemistry (Moscow, Russia), Evrogen JSC, and I am one of the inventors of the subject application.
2. I have worked in the molecular biology field for 22 years.
3. I have a Ph.D. degree in Molecular Biology from 1993 and a D.Sc. degree in Molecular Biology from 1999.
4. I declare that I have read the specification of United States Patent Application Serial No. 10/501,629 (the '629 application), filed July 15, 2004, the pending claims and the final Office Action dated January 23, 2008.

5. Paragraphs [00105] and [00106] of the '629 application describe a MegAlign algorithm used to determine "sequence identity."
6. The MegAlign clustal algorithm described in the '629 application is calculated by comparing two optimally aligned sequences, determining the number of positions at which the identical amino acid occurs in both sequences to yield the number of matched positions, dividing the number of matched positions by the total number of positions, and multiplying the result by 100. The MegAlign algorithm accounts for all mismatches, without preference, regardless of whether or not the mismatch is a conserved mismatch.
7. As used in the '629 application, common understanding of the term "sequence identity" also requires comparing two optimally aligned sequences, determining the number of positions at which the identical amino acid occurs in both sequences to yield the number of matched positions, dividing the number of matched positions by the total number of positions, and multiplying the result by 100.
8. Based on the description in the '629 application, the claim language "at least 96% identical" is understood to be determined by the following equation:
$$(\text{number of amino acid matches}) / (\text{total number of amino acids}) * 100.$$
9. Attachments 3 and 4 of the final Office Action identify a "Query Match" term and a "Best Local Similarity" term. The "Query Match" term does not consider conservative mismatches equivalent to other mismatches. As an example, Attachment 3 identifies "Length 238" and "Matches 221" such that $(\text{number of amino acid matches}) / (\text{total number of amino acids}) * 100$ is:
$$221 / 238 * 100 = 92.9\% \text{ (the same as the "Best Local Similarity").}$$
10. Sequences shown in Attachments 3 and 4 of the final Office Action are respectively only 92.9% and 91.2% identical to SEQ ID NO: 2 referenced in claim 1 of the '629 application, and thereby are not "at least 96% identical to the *Aequorea coerulescens* non-fluorescent protein of SEQ ID NO: 2," as recited in claim 1.

The undersigned, Sergey Lukyanov, hereby declares that all statements made herein of my own knowledge are true and that these statements made on information and belief are believed to be true and further that these statements were made with knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent resulting therefrom.

Date: March, 27, 2008

Signature: _____



SEQUENCE LISTING

<110> Gurskaya, Nadejda
Fradkov, Arkadiy
Lukyanov, Sergey
Punkova, Natalia

<120> Fluorescent Protein From Aequorea Coerulscens And Uses Thereof

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<211> 238

<212> PRT

<213> *Aequoria coerulescens*

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Ile	Lys	Val	Asn	Phe	Lys	Ile	Arg	His	Asn	Ile	Glu	Asp	Gly	Ser	Val	
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Gln	Leu	Ala	Asp	His	Tyr	Gln	Gln	Asn	Thr	Pro	Ile	Gly	Asp	Gly	Pro	
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<212> PRT

<213> Aequoria coerulescens

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Ile	Lys	Val	Asn	Phe	Lys	Ile	Arg	His	Asn	Ile	Glu	Asp	Gly	Ser	Val	
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Gln	Leu	Ala	Asp	His	Tyr	Gln	Gln	Asn	Thr	Pro	Ile	Gly	Asp	Gly	Pro	
		180						185				190				

